

Patent  
Attorney's Docket No. 027575-039

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of

Gregory S. MENDOLIA

Application No.: 08/880,648

Filed: June 23, 1997

For: ACOUSTIC PIPE FOR FLIP STYLE  
CELLULAR TELEPHONE



Group Art Unit: 2744

Examiner: C. Craver

Appeal No.

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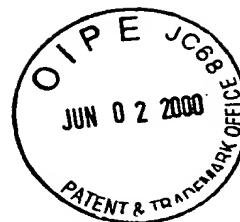
**BRIEF ON APPEAL**

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## APPENDIX A

**I. INTRODUCTION**

**A. Real Party in Interest**

The real party in interest with respect to this Appeal is Ericsson, Inc., the named Assignee in this application.

**B. Related Appeals and Interferences**

There are no interferences or other appeals known to the Appellant, the Appellant's legal representative, or the Assignee, which will directly affect or be directly affected by or have a bearing on the Board's decision in this pending Appeal.

**C. Status of Claims**

This application was originally filed with thirteen claims -- Independent Claims 1 and 10, and dependent Claims 2-9 and 11-13.

Responsive to the first Official Action of this application, an Amendment was filed setting forth amendments to Independent Claims 1 and 10.

A second Official Action was issued on July 28, 1999, setting forth a rejection of Claims 1-13. A Request for Reconsideration was filed in response thereto. A final Official Action was issued on January 3, 2000, setting forth a final rejection of Claims 1-13. Hence, Claims 1-13 are currently pending in this application.

Pursuant to 37 C.F.R. § 1.191(a), Applicant hereby Appeal the Examiner's decision finally rejecting Claims 1-13 to the Board of Patent Appeals and Interferences.

**D. Status of Amendment**

No amendments were submitted after issuance of the final Official Action dated January 3, 2000.

A copy of the claims at issue on Appeal is attached as Appendix A.

**II. SUMMARY OF THE INVENTION<sup>1</sup>**

Cellular telephones on today's market are designed to be smaller so that they are easier to hold and carry. One of the results of the smaller size, however, is that the microphone is further away from the user's mouth, which makes it more difficult for the microphone to pick up the user's voice.

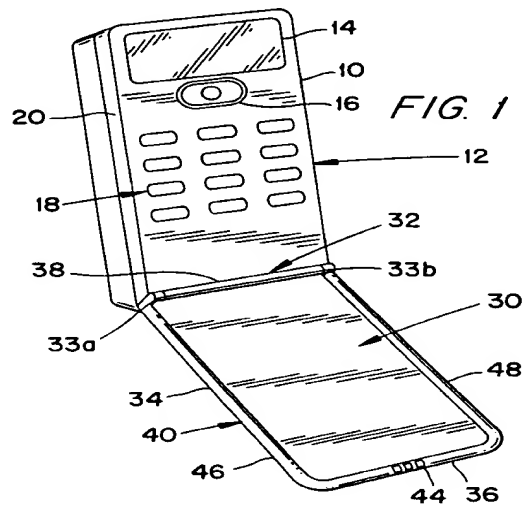
The flip, which is the pivotal portion that covers the keypad and flips open when the telephone is in use, has been used to help overcome this problem. One approach has been to place a microphone at the free end of the flip. This requires that wires be run to the microphone, which adds cost and manufacturing steps. Another approach has been to build an acoustic wave guide into the flip. The wave guide is a triangular shaped cavity formed between panels in the flip that funnel sound to the hinge. An opening in the hinge directs the sound to the microphone. This approach requires that the flip be thicker to accommodate the wave guide, which increases the thickness of the telephone itself, and diminishes its aesthetic appeal.

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<sup>1</sup>This summary is provided in accordance with 37 C.F.R. § 1.192(5) and Section 1206 of the Manual of Patent Examining Procedure, and is not intended to limit the subject matter of the claimed invention to the specific embodiment described herein.

The present invention solves this problem by providing an acoustic pipe which extends entirely along a peripheral edge of the flip from the free end to the hinged end to carry sound from the free end to the hinged end of the flip. The location of the acoustic pipe on the peripheral edges of the flip advantageously positions the additional thickness due to the pipe on the periphery of the flip, so that the portion of the flip that covers the keypad remains thin, and the profile of the unit as a whole is aesthetically pleasing. Because the pipe is located along the peripheral edge of the flip, the main housing in the telephone may be recessed along its peripheral edge in order to accommodate the acoustic pipe when the flip is in the closed position, to thereby maintain the thin profile of the telephone.

In accordance with the present invention, as illustrated in Figure 1 of the application and described at page 3, lines 8-24, the flip style cellular telephone of the present invention includes a main housing 10 and a flip 30. The housing 10 includes a front panel 12 having a display screen 14, earpiece 16 and keypad 18. The housing 10 also contains the electronic circuitry of the telephone.



The flip 30 is connected for pivoting movement to the main housing 10 by hinge 32. The flip 30 includes an acoustic pipe 40 formed on a peripheral edge 34 of the flip. The acoustic pipe 40 is a hollow conduit that leads from the free end 36 of the flip to the

hinged end 38 in main housing 10 of the telephone. A sound opening 44, including a plurality of small holes, is provided in the acoustic pipe 40 at the free end 36. Sound made by the user enters the acoustic pipe 40 to carry from the opening 44 to the hinged end 38.

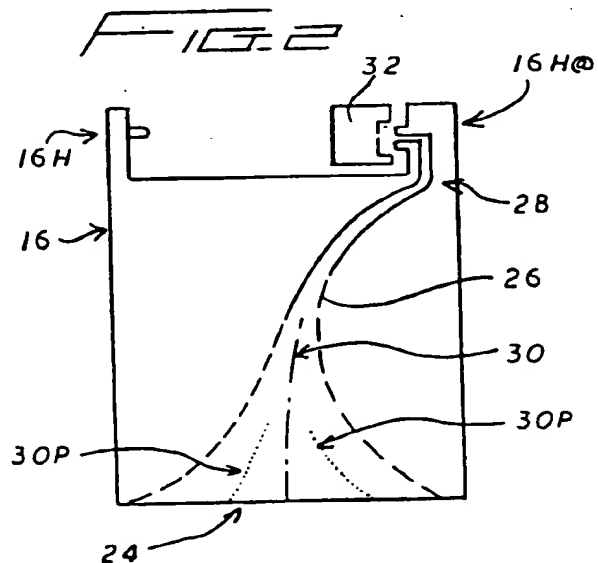
### III. THE REJECTION, REFERENCE AND EXAMINER'S POSITION

#### A. The Rejection

Claims 1-13 stand rejected under 35 U.S.C. § 103(a) based solely on the disclosure contained in U.S. Patent No. 5,832,079 to *Rabe*.

#### B. The Reference

U.S. Patent No. 5,832,079 to *Rabe* is directed to an acoustic horn for use in cellular flip phones. Referring to accompanying Figure 2 from *Rabe*, and as described in column 3, lines 14-47, a flip cover 16 is pivotally mounted at its upper end to a cellular phone casing (not shown), and includes an acoustic horn "specially configured" for being formed in the flip cover 16. As described in column 3, lines 16-19, "[t]he sound collecting and channeling acoustic horn itself is formed as a flared cavity 26 within the cover 16, having a mouth or aperture end 24, and a throat end 28." The specification further notes that other acoustic horn types are



contemplated for use in implementing the present invention, and may include horns of the conical type, parabolic type, hyperbolic type, plus other shapes and types.

**C.      The Examiner's Position**

The Examiner's position with respect to the rejection of Claims 1-13 under 35 U.S.C. § 103(a) is that *Rabe* taken alone renders obvious the limitations of independent Claims 1 and 10. While the Examiner recognizes that *Rabe* does not disclose that the acoustic channel extends entirely along one of the peripheral edges of the flip, the Examiner asserts that *Rabe* does disclose that the cavity can be made in "other shapes and types", including but not limited to conic section-shaped cavities. The Examiner concludes that it would be obvious to one skilled in the art to modify *Rabe* to be in the shape of a right triangle-shaped cavity extending from the hollow hinge to the sound inlet. The Examiner further concludes that it would have been obvious to one skilled in the art at the time the invention was made to incorporate such a cavity shape, and such a cavity shape would not have departed from the scope of the invention of *Rabe*.

**IV.      ISSUE**

The sole issue on Appeal is whether Claims 1-13 are properly rejected under 35 U.S.C. § 103(a) based solely on the disclosure contained in U.S. Patent No. 5,832,079 to *Rabe*.

**V. GROUPING OF THE CLAIMS**

Claims 1-13 have been grouped together for purposes of the rejection based on 35 U.S.C. § 103(a). It is believed that Claims 1-13 stand or fall together.

**VI. ARGUMENT**

**A. The Rejection of Claims 1-13 Based Solely on the Disclosure Contained in *Rabe* is Improper**

The Claim 1 defines a flip style cellular telephone, comprising a main housing, a flip pivotally mounted to the main housing by hinge, which has a free end remote from the hinge, and includes an acoustic pipe entirely extending on a peripheral edge of the flip from the free end to the hinged end to carry sound from the free end to the hinged end of the flip. Likewise, independent Claim 10 defines an acoustic pipe entirely extending on a peripheral edge of the flip from the free end to the hinged end.

In order to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must a reasonable expectation of success. Finally, the prior references, when combined, must teach or suggest all of the claim limitations. MPEP § 2142.

The Federal Circuit has recently stressed that "[o]ur case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is vigorous application of requirement for a showing of the teaching or motivation



to combine [or modify the] prior art". In re Dembiczak, 50 U.S.P.Q. 2d 1614, 1617 (Fed. Cir. 1999) (emphasis added). The Federal Circuit requires that the "showing ... be clear and particular." Id.

The Examiner has failed to point to specific information in *Rabe*, or in the knowledge generally available to one of ordinary skill in the art, which would teach the modification of *Rabe* in the manner suggested by the Examiner. While the Examiner points to the statement in *Rabe* that the acoustic horn may be "other shapes and types", this alone does not provide the teaching to shape the horn of *Rabe* into a right triangle-shaped cavity, as suggested by the Examiner. Nor does the Examiner provide any justification or benefit provided by shaping the horn of *Rabe* into a right triangle-shaped cavity. Thus, the Examiner has failed to provide the proper motivation for the modification of *Rabe*.

Moreover, modification of *Rabe* in the manner suggested by the Examiner does not disclose or teach the features of the present invention. In particular, the modified acoustic horn of *Rabe* into a right triangle-shaped cavity does not expressly teach (1) an acoustic pipe and (2) that the acoustic pipe entirely extends along the perimeter of the flip. The Examiner completely ignores the fact that the acoustic horn of *Rabe* is formed as a flared cavity, which is entirely different than an acoustic pipe. Moreover, it is this differing geometry which prevents the acoustic horn from being *entirely disposed along the peripheral edge* of the flip. Nor does *Rabe* recognize the benefits of such a placement.

The Examiner points to no specific information in *Rabe* that would suggest the placement of an acoustic pipe extending entirely along a peripheral edge of a flip phone, as specifically recited in Claims 1 and 10. In fact, the Examiner's only support to modify

*Rabe* in the manner suggested by the Examiner appears to be the instant disclosure. It is well established that the use of the application under examination as a guide for modifying the cited art constitutes impermissible hindsight, which may not be used in rejection the claims. In re Bond, 910 F.2d 831, 15 U.S.P.Q. 1566 (Fed. Cir. 1990).

**VII. CONCLUSION**

For at least the reasons set forth above, it is respectfully submitted that the rejection of Claims 1-13 is improper and should be reversed.

Respectfully submitted,

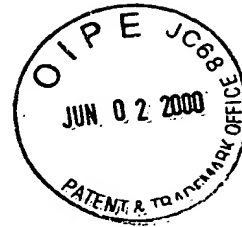
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Date: June 2, 2000

## APPENDIX A



### The Appealed Claims

1. A flip style cellular telephone, comprising:  
a main housing;  
a flip, pivotally mounted to the main housing by a hinge, the flip having a free end remote from the hinge; and  
an acoustic pipe entirely extending on a peripheral edge of the flip from the free end to the hinged end to carry sound from the free end to the hinged end of the flip.
2. The flip style cellular telephone as claimed in claim 1, further comprising a microphone mounted in the main housing and in acoustic communication with the acoustic pipe.
3. The flip style cellular telephone as claimed in claim 2, wherein the hinge is hollow and the acoustic pipe connects to the microphone through the hinge.
4. The flip style cellular telephone as claimed in claim 1, wherein the acoustic pipe provides a single acoustic pathway from the free end to the hinged end of the flip.
5. The flip style cellular telephone as claimed in claim 1, wherein the acoustic pipe extends along the entire surrounding peripheral edge of the flip.
6. The flip style cellular telephone as claimed in claim 5, further comprising a microphone mounted in the main housing to receive sound from the acoustic pipe.
7. The flip style cellular telephone as claimed in claim 6, wherein the microphone is located nearer one end of the hinge, so that two acoustic paths of differing length to transmit sound to the microphone are provided.

8. The flip style cellular telephone as claimed in claim 1, wherein the acoustic pipe has a sound entry opening at the free end of the flip.

9. The flip style cellular telephone as claimed in claim 1, wherein the acoustic pipe is a hollow channel formed in the peripheral edge of the flip.

10. A flip style cellular telephone, comprising:  
a main housing;  
microphone mounted in the main housing;  
a flip, pivotally mounted to the main housing by a hinge, the flip having a free end remote from the hinge; and  
an acoustic pipe entirely extending on a peripheral edge of the flip from the free end to the hinged end, the acoustic pipe having a sound inlet at the free end of the flip and being in acoustic communication with the microphone, wherein sound is transmittable by the acoustic pipe from the inlet to the microphone.

11. The flip style cellular telephone as claimed in claim 10, wherein the hinge is hollow and the acoustic pipe connects to the microphone through the hinge.

12. The flip style cellular telephone as claimed in claim 10, wherein the acoustic pipe extends along the entire surrounding peripheral edge of the flip.

13. The flip style cellular telephone as claimed in claim 12, wherein the microphone is located nearer one end of the hinge, so that two acoustic paths of differing length to transmit sound to the microphone are provided.

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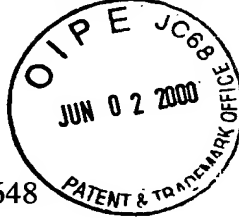
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**TRANSMITTAL LETTER FOR APPELLANT'S BRIEF ON APPEAL**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Further to the Notice of Appeal filed on April 3, 2000, in connection with the above-identified application, submitted in triplicate with this Transmittal Letter is Appellant's Brief on Appeal. The \$300.00 fee required by 37 C.F.R. § 1.192(a) and 37 C.F.R. § 1.17(c) accompanies the Brief on Appeal.

The Commissioner is authorized to charge any fees that may be required by this submission, such as the fee specified in 37 C.F.R. § 1.17(c), and to credit any overpayment to Deposit Account No. 02-4800.

Respectfully submitted,

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